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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,280	05/04/2001	Hironori Fujioka	206202US3DIV	1005

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ALEXANDRIA, VA 22314

EXAMINER

KASTLER, SCOTT R

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 08/26/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,280

Applicant(s)

FUJIOKA ET AL.

Examiner

Scott Kastler

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1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8 and 23-27 is/are pending in the application.
- 4a) Of the above claim(s) 6-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4, 5 and 23-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 05 November 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/386,291.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>17</u> . | 6) <input type="checkbox"/> Other: |

Election/Restrictions

This application contains claims 6-8 drawn to an invention nonelected with traverse in Paper No. 6. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 5 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art of the instant disclosure in view of Beggs et al and Babcock et al. The admitted prior art of the instant disclosure, as described in the embodiment of figure 17 and page 3, last paragraph to page 4, third paragraph for example, teaches a method of forming reduced iron pellets including forming "green" pellets in a pelletizer (203) by forming raw materials including iron ore powder and coal powder (which acts as the reducing agent), passing the green pellets into a reducing furnace for reducing the pellets and then passing the reduced iron pellets into a rotary cooler (202) for cooling the pellets while rolling where the pellets are cooled by spray nozzles (212) and delivering the pellets to a hopper (217) thereby showing all aspects of the above claims except teaching that the green pellets are formed of a combination of iron ore

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powder, a binder and a carbonaceous reducing agent (although the admitted prior art of the instant disclosure does teach forming the pellets of at least iron ore powder and a carbonaceous reducing agent (the coal powder) and allows for the use of other components as well) or the employment of the specifically recited temperatures or cooling rates (performing the rolling at between 800 and 1200 degrees C where the pellets are held at this temperature for between 3 and 20 min. to a final intermediate cooling temperature of below at least 600 degrees C and finally cooling the pellets to below 100 degrees C), the admitted prior art of the instant disclosure recites no operating temperatures to be employed. Beggs et al teaches that it is well known in the iron ore pellet production arts to include a binder (bentonite) in the production of iron ore pellets in order to provide a more cohesive pellet allowing for more efficient pellet production (see col. 3 lines 45-58 and col. 1 lines 39-45 for example). Babcock et al teaches cooling reduced iron ore pellets in a rotary "type" furnace (18) where the pellets are cooled through the range of 800 degrees C to 1200 degrees C for between 3 and 20 min while imparting rolling to the pellets (as expressed in Babcock et al at col. 9 lines 25 to 40 for example, the pellets are subjected to rolling in the cooling chamber and are passed through the temperature range from 1970 degrees F (1076.66 degrees C) to 1100 degrees F (593.33 degrees C) at a rate of less than 200 degrees F (93 degrees C) per minute, meaning that the reduced iron pellets are subjected to rolling within the temperature range of 1076.66 degrees C and 800 degrees C for at least 2.97 minutes or more, thereby encompassing the time range of 3 to 20 minutes instantly recited) with a final intermediate cooling temperature of below 600 degrees C (1100 degrees F, see the embodiment of figure 1 for example) and a final cooling temperature of below 200 degrees F, which encompasses the instantly recited final cooling temperature range. Babcock et al teaches that the

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employment of these temperature ranges and cooling rates impart improved briquetting properties and quality to the reduced iron pellets produced (see col. 2 lines 6-18 for example). Because the system of the admitted prior art of the instant disclosure allows for both the pellet compositions of Beggs et al and the temperature and cooling rates of Babcock et al, motivation to employ the pellet forming composition recited in Beggs et al in order to produce more structurally sound pellets and the temperatures and cooling rates of Babcock et al in order to improve briquetting properties and quality of the finally produced iron ore pellets of the admitted prior art of the instant disclosure, would have been modifications obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments and amendment, see Paper No.18, filed 7-15-2003, with respect to the rejection of claim 24 under 35 USC 112 second paragraph have been fully considered and are persuasive. The rejection of this claim under 35 USC 112 second paragraph has been withdrawn.

Applicant's arguments filed on 7-15-2003 with respect to the rejections under 35 USC 103 have been fully considered but they are not persuasive. Applicant's arguments that neither of Babcock or Beggs teach the use of a rotary "type" furnace for direct reduction of iron is not persuasive. Both Babcock (which teaches that use of a rotary kiln (10) for reduction of iron) and Beggs (which specifically teaches the use of a rotary hearth furnace (12) see col. 6 lines 1-7 for example) clearly and expressly state that furnaces which meet the broad limitation of a "rotary type furnace" are to be employed for reducing the iron ore to be directly reduced.

Conclusion


THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (703) 308-2506. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703) 308-3050. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.


Scott Kastler
Primary Examiner
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